

Notice of Allowability

Application No.

09/625,384

Examiner

Celia Chang

Applicant(s)

MUELLER ET AL.

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to 04/21/05 examiner's amendment attached.
2. ☐ The allowed claim(s) is/are 100-104.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date attached.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Celia Chang
Primary Examiner
Art Unit 1625

RD

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DETAILED ACTION

1. The request for reconsideration filed on Aug. 30, 2004 has been considered carefully.

Based on the restriction and species election, the subject matter of claim 30 wherein R' is R1 and R1 is the scope of claim 28, nonheterocyclic, is examined.

One method of treating HIV in vitro in cell is rejoined with the elected compounds. The remaining compounds and compositions of claims 1-29, 32, 34-95 and the remaining subject matter of claim 30, not reading on the elected compounds or in vitro inhibition of retroviral protease activity are withdrawn from consideration per 37 CFR 1.142(b).

Claims 30 R' is alkyl, thioalkyl, alkylthioalkyl, alkenyl, alkynyl and cycloalkyl and claims 31, 33 reading on the elected claim 30 are examined.

2. *Examiner's Amendment*

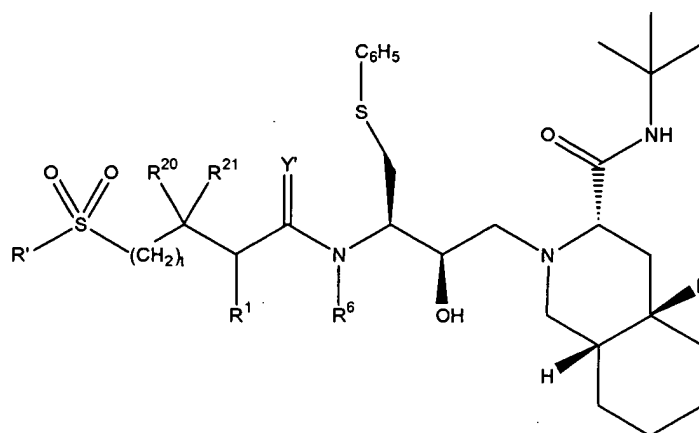
Authorization for this examiner's amendment was given in a telephone interview with Mr. Benjamin Spehlmann on April 20, 2005.

Claims 1-99 have been canceled.

Applicants have limited the claims to the elected invention and replacing the pending claims with the newly added claims 100-104. Rejoining only the method for inhibiting retroviral protease in cells. Support for the instant amendment are found in claims 19, 28, 30-33 as originally filed.

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Claim 100 (New): A compound represented by the formula



wherein

R' represents a radical selected from the group consisting of alkyl, aryl, and arylalkyl;

t is 0 or 1;

R^1 represents a radical selected from the group consisting of a hydrogen radical, $-\text{CH}_2\text{SO}_2\text{NH}_2$, $-\text{CO}_2\text{CH}_3$, $-\text{CH}_2\text{CO}_2\text{CH}_3$, $-\text{C}(\text{O})\text{NH}_2$, $-\text{C}(\text{O})\text{NHCH}_3$, $-\text{C}(\text{O})\text{N}(\text{CH}_3)_2$, $-\text{CH}_2\text{C}(\text{O})\text{NHCH}_3$, $-\text{CH}_2\text{C}(\text{O})\text{N}(\text{CH}_3)_2$, alkyl, alkylthioalkyl, thioalkyl, the corresponding sulfoxide and sulfone derivatives of alkylthioalkyl and thioalkyl, alkenyl, alkynyl, alkoxyalkyl, haloalkyl, cycloalkyl, and amino acid side chains selected from the group consisting of asparagine, S-methyl cysteine, and the corresponding sulfoxide and sulfone derivatives of S-methyl cysteine, glycine, leucine, isoleucine, allo-isoleucine, tert-leucine, alanine, phenylalanine, ornithine, histidine, norleucine, glutamine, valine, threonine, allo-threonine, serine, aspartic acid and beta-cyano alanine;

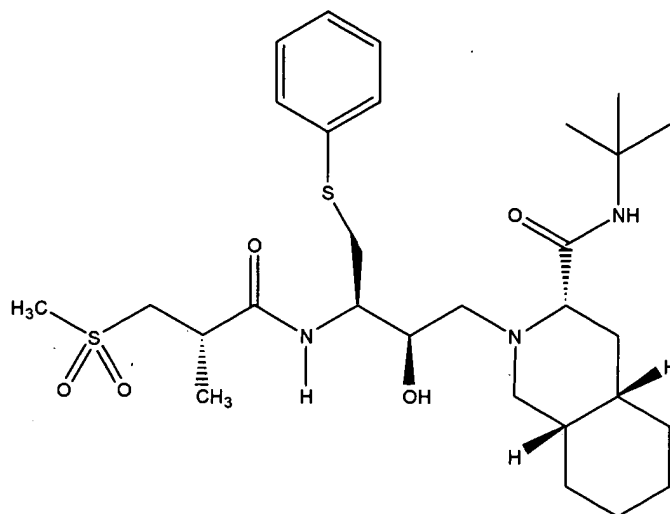
Y' represents O, S, and NR^3 , wherein R^3 represents a radical selected from the group consisting of a hydrogen radical, alkyl, alkenyl, alkynyl, haloalkyl, hydroxyalkyl, alkoxyalkyl, cycloalkyl, cycloalkylalkyl, heterocycloalkyl, heteroaryl, heterocycloalkylalkyl, aryl, aralkyl, and heteroaralkyl radicals;

R^6 represents a hydrogen radical or an alkyl radical; and

R^{20} and R^{21} independently represent radicals as defined for R^1 .

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Claim 101 (New): A compound of claim 100 having the formula



Claim 102 (New): A pharmaceutical composition comprising a compound of claim 100 and a pharmaceutical carrier.

Claim 103 (New): A pharmaceutical composition comprising a compound of claim 100 and pharmaceutical carriers.

Claim 104 (New): A method of inhibiting a retroviral protease in vitro comprising administering a protease inhibiting amount of a compound of claim 100 to a cell.

3.

Reason for Allowance

The following is an examiner's statement of reasons for allowance:

Applicants have limited the claims to the elected invention which is neither anticipated nor rendered obvious by the art of record. The closest art is the Munroe reference recited on 1449 which disclose the isoquinolinyl compounds and the analogous thienopyridinyl compounds with the negative teaching for modification to the instant phenylthiomethyl group now limited in the claims (see pl. 2897 formula 2, 3,4 and p.2899 second paragraph lines 7-8, 3 is more desirable than 4). It lacks motivation for employing a less potent isostere with good activity i.e.

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see page 147 compound 22 and example 33 enzyme assay. Claims 100-104 limiting to the allowable compounds and free from 112 issues are allowed.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Celia Chang whose telephone number is 571-272-0679. The examiner can normally be reached on Monday through Thursday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang, can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

OACS/Chang
April 21, 2005


Celia Chang
Primary Examiner
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